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In the claims:

Please amend the claims as shown below:

5 1. (Currently amended) A method for the an oxygen gas delignification of cellulose pulp in a gas/fluid suspension in which the oxygen gas delignification takes place in a reactor system with one or several oxygen gas reactors, comprising: in which delignification chemicals such as

10 providing delignification chemicals in oxygen gas at such a quantity that oxygen gas remains present during the a complete reaction process in the oxygen gas reactor reactors; together with the oxygen gas, providing alkali at an amount that ensures that a the pH value in the oxygen gas reactor

15 remains over 9; adding the oxygen gas and alkali upstream of are added at least before a first the oxygen gas reactor; (101) characterised in that

measuring a the temperature of the cellulose pulp is measured

20 at the a start of the oxygen gas delignification at at least two different locations with the aim of determining the to determine an initial consumption of delignification chemicals that have reacted in the a fluid phase,

which using the determined initial consumption of

25 delignification chemicals is used to control or adjust the charged an amount of at least one delignification chemical charged to the oxygen gas delignification of at least one delignification chemical,

reducing or increasing an amount of delignification chemicals charged such that the charged amount of chemicals can be reduced while at the same time guaranteeing the presence ensuring a presence of delignification chemicals during the complete reaction process.

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2. (Currently amended) The method according to claim 1, ~~characterised in that wherein the positions of the measurements between two subsequent temperature measurements correspond to positions between which the cellulose pulp has had a retention time in the reactor system between 10 seconds and 30 minutes, preferably 1-10 minutes.~~

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3. (Currently amended) The method according to either claim 1 and 2, ~~characterised in that claim 1 wherein a~~ the first temperature measurement (T_1) is made at a location after the addition of oxygen gas.

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4. (Currently amended) The method according to either claim 1 and 2, ~~characterised in that claim 1 wherein a~~ the first temperature measurement (T_1) is made at a location before the addition of oxygen gas.

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5. (Currently amended) The method according to ~~any one of claims 1-4, characterised in that claim 1 wherein~~ two temperature measurements are made and that ~~the~~ a derivative between the first and the second temperature measurements is used to control ~~the an charged amount charged of at least one delignification chemical.~~

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6. (Currently amended) The method according to ~~any one of claims 1-4, characterised in that claim 1 wherein~~ the temperature measurements are coupled to an oxygen gas trend, ~~which oxygen gas trend that~~ is used to control ~~the an charged amount charged of at least one delignification chemical.~~

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7. (Currently amended) A system for ~~the an~~ oxygen gas delignification of cellulose pulp in a gas/fluid suspension in which the oxygen gas delignification takes place in a

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reactor system, comprising:

an oxygen gas reactor having delignification chemicals contained therein;

an alkali addition location for adding alkali to the system,

5 the alkali addition location being upstream of the oxygen gas reactor;

a delignification chemicals addition location for adding delignification chemicals to the system, the delignification chemicals addition location being upstream of the oxygen gas

10 reactor;

with one or several oxygen gas reactors, in which delignification chemicals such as oxygen gas at such a quantity that oxygen gas remains present during the complete reaction process in the reactors together with alkali at an amount that ensures that the pH remains over 9 are added at least before a first oxygen gas reactor (101) characterised in that

15 a first temperature sensor located adjacent to the delignification chemicals addition location;

20 a second temperature sensor located in the reactor system downstream of the first temperature sensor;

the first and second temperature sensors being electrically connected to a control unit;

the control unit being electrically connected to a control

25 valve; and

the control valve being in operative engagement with a delignification chemicals supply to control a flow of delignification chemicals to the delignification chemicals addition location.

30 two sensors (113) for temperature measurement are arranged after each other in the direction of flow of the pulp with physical locations in the system that ensure a retention time of 1-10 minutes, the sensors (113) transfer the measured data via means for signal transmission to a suitable control unit (111), which control unit (111) calculates the amount of

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~~delignification chemicals consumed, the control unit (111) subsequently regulates a signal controlled valve (112) for the control of the amount of at least one delignification chemical added.~~

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8. (Currently amended) The system according to claim 7 ~~characterised in that wherein~~ the first temperature sensor (113), viewed from the ~~direction of flow a flow direction of the cellulose pulp through the system,~~ is located immediately downstream of the delignification chemicals addition location. is placed at a location directly after the addition of oxygen gas.

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9. (Currently amended) The system according to claim 7 ~~characterised in that wherein~~ the first temperature sensor (113), viewed from the ~~direction of flow a flow direction of the cellulose pulp through the system,~~ is located immediately upstream of the delignification chemicals addition location. is placed at a location directly before the addition of oxygen gas.

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